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TITLE OF THE INVENTION (280 characters max)

METHOD AND SYSTEM FOR PROCESSING INTERNET PAYMENTS
USING THE ELECTRONIC FUNDS TRANSFER NETWORK

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Respectfully submitted,

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[ ] Additional Inventors are being named on separately numbered sheets and attached hereto.

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METHOD AND SYSTEM FOR PROCESSING INTERNET PAYMENTS USING THE ELECTRONIC FUNDS TRANSFER NETWORK

RELATED APPLICATION

This application is based on and claims priority to U.S. Provisional Patent Applications Nos.: 60/132,305, filed May 3, 1999; 60/150,725, filed August 25, 1999; 60/161,300, filed October 26, 1999; and 60/163,828, filed November 5, 1999 the entire disclosures of which are hereby incorporated by reference.

FIELD OF THE INVENTION

The present invention generally relates to methods for process virtual cash and more particularly to a method by which a payor pushes electronic payments to a payee using an Electronic Funds Transfer system.

BACKGROUND OF THE INVENTION

Presently, there are several methods by which a consumer can electronically pay for purchases made on the Internet, such as credit cards, off-line debit cards, online debit cards, digital cash, and smart cards. Each of these methods has its own advantages and disadvantages. An off-line debit card uses the traditional credit card system for clearing the payment but no Personal Identification Number (PIN) is required. The use of an on-line debit

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card requires that the consumer supply his or her PIN, and the amount of the purchase is debited from the consumer's account instantaneously. One disadvantage with both the on and off-line debit cards, from a consumer's point of view, is the inability to reverse or repudiate the transaction. In

5   contrast, by use of a credit card, the consumer at a later date can reverse the transaction (e.g., if the purchased goods are never shipped to the consumer).

It is predicted that credit cards will be the dominant on-line point of sale (POS) payment choice for at least the next five years. While new Internet payment mechanisms have been rapidly emerging, consumers and merchants

10   have been happily conducting a growing volume of commerce using basic credit card functionality. None of the emerging efforts to date have gotten more than a toehold in the market place and momentum continues to build in favor of credit cards.

At the present time, there are two large market segments for an

15   online payment system. First, high volume, low dollar payments from consumers to providers of on-line digital intellectual products or services such as written materials, music, software or games. These can either be 'Intrapreneurs,' individuals or small merchants marketing their products directly to consumers, or larger intermediaries, either traditional retail

20   merchants or auction sites that aggregate consumers and sellers to facilitate sales. A second large market segment involves electronic payments from consumers to other consumers.

The market opportunity will continue to explode as what is currently thought of as the Internet continues to expand. In general, the

25   Internet is thought of as a Personal Computer (PC) and telephone based.

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However, that model is quickly changing to include broadband communication via terrestrial links such as Digital Subscriber Line (DSL), wireless and two-way cable. The end number of devices is also expanding to include cellular phones with video displays as well as interactive television, Personal Digital Assistants (PDAs) and kiosks with Internet access . Both of these changes will only serve to increase the number of end points and consumers who will have a need for high-volume, low dollar payment capabilities.

Overall, retail consumer sales as well as business to business sales on the Internet are projected to grow exponentially. The bulk of the payments for these sales are expected to be done with credit cards, which are widely available and owned, are supported by an established infrastructure and provide merchants and consumers with a high degree of surety of payment and receipt. While there are clear differences in the ways in which consumers use credit cards, traditionally, consumers have used them for larger dollar purchases. In recent years, debit cards have entered the market and have been used as cash and check replacements, replacing lower-dollar volume transactions for purchases of consumable products such as food and gasoline.

In addition to the drawbacks described above, credit card (and debit cards used in the off-line mode) have a relatively high cost that includes a processing fee plus a merchant discount of 1.4% and up. The relatively high fees support the credit card business model. While credit and debit cards may continue to be a viable payment option for merchants selling relatively high ticket items over the Internet, credit and debit cards are not economically viable for purchases of lower cost items. For lower-cost items, the relatively high transaction processing fees plus the discount result in the transaction

processing fee consuming a relatively high proportion of the total revenue generated by the product sale. These characteristics of a low cost item lend themselves to a low cost payments solution that is guaranteed, yet does not require the payee to bear the burden and risk of authentication.

The Internet is spawning a direct model in which manufacturers of products or services are able to deal directly with consumers. This model has several implications for the payment process. First, by eliminating the middleman, the direct model is resulting in intense price competition, with manufacturers having much tighter margins. This competition creates the need to minimize all costs especially payment processing costs. Second, the Internet enables the development of large numbers of independent producers to 'set up shop' on the Internet and immediately have access to large numbers of consumers. Third, a large and increasing number of intellectual products such as publications, music, video, software, games are more efficiently distributed digitally over the Internet rather than through traditional physical (paper or disc) media. While this trend has already started, as higher bandwidth and increasingly sophisticated devices enter the marketplace, it is expected to increase significantly. Many of these purchases will have the following characteristics: low cost to the consumer, and the ability to purchase individual works (i.e.: a song, a video, an article, a game). These characteristics call for a payment form that has a low cost.

By combining these two trends - direct merchant to consumer distribution from independent 'intrapreneurs' and the ability to distribute products digitally - a new marketplace has emerged for low dollar, high volume, real-time payments with payment surety for both consumers and

producers. Larger intermediaries, such as existing on-line merchants and auction sites will also benefit from a low-cost payment device for high-volume, low-dollar payments for all of the same reasons outlined above. On-line merchants are currently facing a variety of problems including a low volume of on-line purchases relative to the number of site viewers; a high volume of charge-backs for on-line purchases; non-integrated 'patchwork' systems for payment processing; high fraud rates and high processing fees. All of these factors serve to depress the potential number of customers who are comfortable purchasing on line as well as depressing the profitability of on-line merchants.

Furthermore, to date, there is no efficient way for consumers to make payments to other consumers using the Internet. All traditional forms of person-to-person exchange include the physical exchange of cash or checks rather than a real-time digital exchange of value. In addition, the high cost of retail wire transfers (i.e., Western Union™) is cost prohibitive to a significant portion of society.

Automated Clearing House (ACH) payments have begun to be used with respect to payments made via the Internet. These types of transactions typically involve payments made with respect to loans, insurance and utilities. It is predicted that ACH payments will not be widely deployed to on-line Point Of Sale (POS) for two reasons. First, an ACH transaction does not provide transaction authorization, and secondly, authentication requires a pre-existing relationship between the customer and the merchant. Furthermore, ACH payments have to be received, deposited and cleared before the funds are available. In contrast to ACH transactions, credit and off-

line debit cards require authorization but not authentication. Similarly, on-line debit requires authentication (i.e., a PIN or other authentication).

Two significant drawbacks with some or all of the above models for Internet POS payments are that: 1) a pre-existing relationship between the consumer and the merchant must exist; and 2) the consumer is required to provide the merchant with his or her account and/or PIN. The first drawback of some of the above models cannot be practically overcome as it is impossible for a consumer to have pre-existing relationships with all of the potential merchants conducting business on the Internet. With respect to the provision of the consumer's account and PIN number over the Internet, even though mail order companies have been operating in this manner for years, many consumers feel uneasy about electronically providing their account and PIN numbers to strangers over the Internet.

Figure 1 depicts the conventional debit/credit transaction model. In this model, if the consumer 100 desires to buy a compact disc (CD) from a web retailer 110, the consumer 100 electronically transmits its debit or credit card number and/or PIN to the web retailer 110. Upon receipt of this information from the consumer 100, the retailer 110 submits the proposed transaction to its bank 120 for approval. The merchant's bank 120 then contacts the bank 130 (issuer bank) which issued the debit/credit card to the consumer 100. The issuer 130 checks the consumer's balance on the card and either approves or rejects the proposed transaction. This approval or denial is transmitted from the issuer bank 130 back to the merchant bank 120 which then informs the web retailer 110 of the approval or denial. If the charge to

the debit/credit card was approved, the transaction is completed by the web retailer 110 shipping the goods to the consumer 100.

Some of the same drawback described above with respect to Internet shopping equally apply to electronic bill payment. The first drawback, requiring a pre-existing relationship between the consumer and bill payee is not as great a concern because this relationship most likely already exists between the consumer and the payee (e.g., the telephone, cable or utility company). The second drawback which requires the consumer to provide the payee with his or her account and/or PIN still remains a concern with electronic bill payment. Although fraud is less of a problem for bill payment, since the consumer presumably has regular dealings with the payee, some consumers still view the provision of the payee with at least his/her account number a diminution in the consumer's privacy.

SUMMARY OF THE INVENTION

The present invention represents a new paradigm for effectuating electronic payments that leverages legacy platforms, conventional payment infrastructures and currently available web-based technology to enable e-commerce in both the virtual and physical marketplace. The concept provides a safe, sound, and secure method that allows users (consumers) to shop on the Internet, pay bills, and pay anyone virtually anywhere, all without the consumer having to share account number information with the payee. Merchants receive immediate payment confirmation through the Electronic Funds Transfer (EFT) networks so they can ship their product with confidence. The present invention further enables small dollar financial

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transactions, allows for the creation of "web cash" as well as provides facilities for customer service and record-keeping.

There are five main structural components to the system of the present invention: a digital Wallet; an Internet Pay Anyone (IPA) Account; a Virtual Private Lockbox (VPL) and an associated VPL Reporter; the existing EFT networks, and a cash card. The Wallet is a software application that augments any Internet browser with e-commerce capability. The Wallet software sits in front of and provides a secure portal for accessing (linking to) either the user's Demand Deposit Account (DDA) or an IPA account. Consumers use the Wallet to fund their account, shop on the web, pay bills, pay anyone, store electronic receipts and transaction history, and check their recent Wallet activity. The Wallet provides consumers with a safe, secure, and convenient way to conduct financial transactions over the Internet.

The majority of the prior art electronic wallets on the Internet today are primarily used as a convenience vehicle merely providing a method of storing account number information. The Wallet of the present invention not only stores account and shipping information, it also links to a DDA, or an IPA which contains a pre-funded dollar amount. The Wallet thus creates a form of virtual cash that is secure and guaranteed. The Wallet further contains a receipt feature, so that all purchases and payments can be reviewed on demand. The Wallet enriches the consumer e-commerce experience by eliminating the tedious process of filling out lengthy payment and shipping fields as this is done automatically. Merchants also benefit from the payment and shipping feature, as research indicates that most e-commerce purchases

are abandoned at the point of sale due to consumers' unwillingness to complete lengthy forms or provide personal credit card numbers.

The IPA account is a special purpose DDA with limited functionality for funding and receiving electronic payments. Funds can only be accessed electronically (through a PC, card reader, PDA, Interactive TV and cell phone technology, for example). This restriction provides an added level of consumer protection in that all transactions must pass through the secure EFT network.

Similar to an IPA, the VPL is a limited function DDA account. While an IPA can be accessed electronically, a VPL is constructed with EFT network "receive only" functionality for a merchant (or other party) to receive electronic payments through the EFT. Therefore a VPL is a secure address that can be provided to the public as a means of receiving funds. These funds are then automatically swept to either the owner's corresponding DDA or IPA account, preferably once a day. As will be further described below, there are several types of VPL accounts according to the present invention: one for consumers, one for merchants and one is linked to a cash card. The VPL linked to a cash card does not sweep into a separate account, nor is it linked to an IPA or Wallet technology. Rather, this card VPL is a receive only account that can only be debited via the use of the cash card.

The VPL Reporter is a portal to view the VPL account. Although similar to the Wallet described above, the functionality of a VPL Reporter differs from a Wallet. The VPL Reporter is a tool primarily employed by merchants that provides online, real-time transaction reports, and reconciles accounts receivable/purchase records against incoming EFT

payment records. In addition, the transaction history of the VPL can be archived and retrieved via a payment search engine in the VPL Reporter. This provides the merchant with powerful data mining, customer service, and order fulfillment (warehouse, shipping, supply chain management) tools at their fingertips. Credit card purchases on the web according to prior art methods are not connected to a cash management program. In contrast to these prior art systems, the VPL, connected with the VPL Reporter, offers a complete purchasing and cash management opportunity for a merchant. The VPL and VPL Reporter combination provides a merchant with instant payment receipt verification, accounts receivable functionality, order fulfillment facilitation, inventory control/supply chain management facilitation and data mining capability.

The VPL Reporter is a flexible new product offering instant payment confirmation, reconciliation and record retention so that merchants can track purchase orders against actual payments in real time. Every VPL transaction can be stored, searched, and retrieved. This archival/retrieval functionality is the perfect instrument for customer service and data mining. The VPL Reporter offers all of the above features, without the need to actively engage in funds management as is required with the prior art.

Using the structures described above, the methods of the present invention allow consumers and businesses to conduct secure and economical shopping on the Internet, to pay anyone online, wire anyone funds online, pay bills electronically online, and even use a linked cash card. The methods and structures of the present invention enable e-commerce in both the virtual and

physical marketplace through the use of legacy platforms, the conventional payments infrastructure and currently available web-based technology.

The present invention furthermore solves many, if not all, of the problems of the prior art described above. Currently, all Internet transactions use "pull" technology in which a merchant must receive the consumer's account number (and in some cases pin number) in order to complete a payment. The payment methods of the present invention conversely use "push" technology in which consumers apply an EFT credit to the merchant's account, without having to provide their own sensitive account information.

The present invention provides an enhanced level of security because no sensitive financial information is carried over the Internet. All of the financial transactions are executed through the secure EFT network. This method of the present invention provides consumers and merchants with the comfort that their transactions are both secure and private. Furthermore, since payment confirmations are immediately received through the EFT network, merchants can rest assured that the consumer's funds are "good" before the purchase transaction is completed (i.e., before the goods are released (shipped) to the consumer).

The funds in the IPA account of the present invention can only be accessed electronically (via PC, PDA, card reader, interactive TV, Internet kiosk ...). This restriction provides an added level of consumer protection in that all transactions must pass through the secure EFT network. The VPL of the present invention is constructed with EFT network "receive only" functionality. The only way that funds can be moved out of the VPL is through a sweep to a corresponding DDA or IPA account. Therefore a VPL is

a secure address that can be provided to the public as a means of receiving funds.

The present invention provides significant economic advantages over the prior art systems and methods. The majority of the technology required to implement the present invention already exists which results in reduced startup costs for a financial institution practicing the present invention. Payments made according the present methods pass through a mature, established EFT switch which results in a low transaction cost. The payment mechanisms of the prior art are not optimal for processing small dollar transactions. However, the efficient, low cost architecture of the present invention supports payments of any size and is perfect for low dollar purchases. This architecture supports the growing need for Internet micro-payments for goods such as on line articles and music files, yet supports large value payments as well.

By the structures and methods of the present invention, the two most significant disadvantages of the prior art online shopping methods described above have been overcome. First of all, the consumer is no longer providing its confidential financial information to strangers over the Internet. Rather, the consumer is dealing directly with its own trusted institution, the bank. Furthermore, no pre-existing relationship has to exist between the customer and the merchant.

For the merchant, the present invention significantly reduces the transactional cost as compared to the use of credit cards. The method also provides a reduction in fraud and credit losses, while the finality of the

transaction virtually eliminates dispute and chargeback processing from the viewpoint of the financial institution.

The present invention is not limited to the case of a consumer making purchases from Internet merchants. The method has further, broader applicability by providing the ability for anyone with an account at a financial institution to transfer funds to anyone else who also has an account at the same or a different financial institution. The pay anyone feature of the Wallet allows consumers to virtually wire funds instantaneously without the expense of today's wiring fees.

BRIEF DESCRIPTION OF THE DRAWINGS

For the purposes of illustrating the present invention, there is shown in the drawings a form which is presently preferred, it being understood however, that the invention is not limited to the precise form shown by the drawing in which:

Figure 1 illustrates the prior art method of Internet payment processing using debit and/or credit cards;

Figure 2 depicts a first embodiment of the present invention that enables Internet shopping;

Figure 3 depicts a pay anyone embodiment of the present invention;

Figure 4 illustrates a prepaid cash card embodiment of the present invention;

Figure 5 illustrates a wire anyone embodiment of the present invention;

Figure 6 illustrates a bill payment, biller direct embodiment of the present invention;

Figure 7 illustrates a bill payment, service provider consolidation embodiment of the present invention;

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Figure 8 illustrates a bill payment, customer consolidation embodiment of the present invention; and

Figure 9 illustrates a structure and process for funding an Internet payment account wallet.

DETAILED DESCRIPTION OF THE INVENTION

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In contrast to the credit card, on-line and off-line debit and other payment models existing today, one of the unique features of the method of the present invention is the flow of the payment instruction and the payment which follows. In the credit card, on-line and off-line debit models, a

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consumer provides the merchant with an instruction that authorizes the merchant to collect funds from the consumer's bank account. Depending on the system, this payment instruction results in a guaranteed customer payment in the case of an on-line debit rather than a lengthy wait for funds (such in the case of a check) or something in between in the case of an off-line debit and

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credit card. The difference between the prior art models and the model of the present invention can be described as the difference between a "pull" and a "push" model. In the conventional models of today, the merchant "pulls" the payment from the consumer's account, while in the present invention the customer "pushes" the payment to the merchant's account.

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Figure 2 illustrates a first embodiment of the present invention in which a consumer can perform Internet shopping. Figure 2 further illustrates the main structural components of the present invention. Element 200 represents the device through which the consumer accesses the Internet.

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In a preferred embodiment, the workstation 200 is Personal Computer (PC) loaded with an Internet browser 210 such as Netscape™ Navigator™ or Microsoft™ Internet Explorer™. In alternative embodiments, the user can access the Internet using any Internet ready device such as a web enabled

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ATM machine or a Personal Digital Assistant (PDA) such as a Palm Pilot™, a cell phone or an interactive TV. The present invention is not limited by any particular physical device and can employ any device which provides access to the Internet. For example a public Internet kiosk which provides access to the Internet can be used to practice the present invention.

As the user accesses the Internet, a Wallet 215 is attached to the user's session. The Wallet 215 can be downloaded and installed from a website. Using thin wallet technology, the Wallet 215 resides on a host web server and the user accesses the Wallet 215 through a website or a button on

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the browser 210. In addition to PC-based access as described above, the Wallet 215 can be downloaded to various non-PC devices such as PDA's,

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cellphones, and interactive TV's. The consumer may access the Wallet 15 while logged onto Internet by selecting a Wallet 215 button on the browser 210 toolbar, or selecting the Wallet 215 icon at the merchant's web site. For non-PC devices, the Wallet 215 can be activated via a separate application, a browser link, or through a sponsoring website.

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The user's log-in to the Wallet 215 is secure and encrypted to protect the confidentiality of the financial information associated with the operation of the Wallet 215. Once accessed, a window containing the Wallet 215 is launched on the workstation 200 and remains open during the user's session. The Wallet 215 window has the ability to communicate with other open browser windows.

As one of its primary functions, the Wallet 215 serves as the portal to an Internet Payment Account (IPA) or a DDA account 230 described in more detail below. In a preferred embodiment the Wallet 215 stores the following types of information: Form filling information such as credit card numbers, debit card numbers, shipping addresses, alternate shipping addresses, frequent flyer accounts, membership discounts (e.g., AAA, AARP), loyalty programs and e-mail addresses; Discount information such as e-coupons, rebates and merchant-specific spending certificates; and Convenience information such as frequently paid VPL #'s (described below), bill payment account #'s, receipts, e-commerce bookmarks, shopping lists, and the preferred download folder on the user's local hard drive.

Using the above information, the Wallet 215 automatically fills in electronic merchant purchase forms with the user's shipping address, e-mail address, discount numbers, etc. The Wallet 215 supports virtual cash (IPA/DDA) as well as credit and debit card payments. Upon receipt of an electronic purchase message from a merchant web site as will be further described below with respect to the method of Figure 2, the Wallet 215 user is able to: 1) approve a purchase; 2) initiate the payment 3) generate a purchase confirmation that will be transmitted to the merchant web site; and 4) generate

a receipt that will be stored. The Wallet 215 user receives a confirmation message indicating that no purchase has been made if a purchase is not completed. Steps 3-4 may occur in succession or simultaneously

The Wallet 215 includes a "Time Out" feature whereby purchase requests not approved by a Wallet 215 user for a set amount of time (e.g. 10 minutes) will be invalidated. For "Pay Anyone" payments as further described with respect to Figure 3 below, the Wallet 215 supports a user defined recission period (e.g. 30 minutes) during which the user can reverse a transaction. Furthermore, the Wallet 215 includes parental control settings to fund the account, limit transaction value and to block unapproved sites.

A unique transaction number is included in any payment messages to and from the Wallet 215 and these messages are stored by the Wallet 215 for review and auditing by the user. Wallet 215 interfaces with the VPL Reporter described below, which will have access to all archived transactions. Transactions are stored for audit as well as disaster recovery purposes. The Wallet 215 allows the user to view all transaction histories including receipts and messages. These historical items are sortable by date, function (bill payment, pay anyone, shopping, etc.), amount, payments initiated or received, merchant, etc.

As is further described below, Wallet 215 payments to a merchant's Virtual Private Lockbox (VPL) 235 include the merchant's VPL number, the Wallet 215 user's name (if required) and a unique transaction number. The Wallet 215 can make repeated payments (daily, weekly, etc) as well as scheduled payments (on a specific calendar day or in a specific # of days). If the Wallet 215 is linked to a DDA or IPA account 230, DDA debits

such as checks, returned checks, ACH payments, etc. are not charged against funds in the IPA account 225. Users are required to acknowledge acceptance of a Wallet 215 agreement prior to their first transaction including a requirement to return any proceeds received in error.

Prior to conducting any on-line purchases or making any payments using the methods of the present invention, the consumer establishes an Internet payment account (IPA) 230 with its bank 220. The IPA account is a specialized DDA used specifically for online payments in accordance with the present invention. Once this IPA account 230 has been established, the consumer is able to fund this account 230 from its normal DDA checking or savings accounts, consumer's Line of Credit or credit or debit card account held by the bank 220 or any other linked account from which the consumer can transfer funds. Funds drawn from a credit card are sent to the IPA account 230 via the EFT network 270. The IPA account 230 further provides the user a confirmation to verify that the amount drawn is correct. The IPA account 230 further allows ATM credit transactions and PIN-initiated debit transactions.

The establishment of a separate IPA 230 for credits and debits is preferable from a consumer's point of view in order to provide a separate accounting and statement from the consumer's normal DDA. As with its regular DDAs, the IPA transaction history is archived. As the IPA account 230 is not necessarily interest bearing, the consumer would accordingly only fund small amounts into this account in order to cover potential on-line purchases. In an alternative embodiment of the present invention, the

consumer's payment request for credits and debits can be made directly against the DDA.

The IPA account can have a physical companion card (e.g. ATM, Debit, Smart Card) for physical, in person, purchases and withdrawals as will be further described below with respect to Figure 4. The IPA account 230 can allow physical access via ATM's or merchant card readers for a PIN debit transaction only.

One of the most significant features of the present invention is the use of the existing EFT networks 270. Although these networks 270 have provided secure transfer of funds for years, the use of these networks in accordance with the present invention is heretofore unheard of. In the use of the EFT network, the present invention provides real time credit. This is contrasted to the prior art methods in which the credit provided is a reversal of a prior debit transaction (e.g., credit cards) The EFT networks 270 are used to fund the IPA 230, effect IPA transactions, and fulfill IPA reporting functionality. As well as supporting the transmission of real time credit transactions, the EFT network 270 transmits messages containing special transaction codes or accounts number structures used to uniquely identify IPA transactions.

As described above, similar to an IPA account 230, the Virtual Personal Lockbox (VPL) 235 is a limited function DDA account. While an IPA 230 can be accessed electronically, a VPL 230 is constructed with EFT network "receive only" functionality for a merchant (or other party) to receive electronic payments through the EFT 270. Therefore a VPL 235 is a secure address that can be provided to the public as a means of receiving funds.

These funds are then automatically swept by the merchant's bank 275 to either the owner's corresponding DDA or IPA account 280, preferably once a day.

Like an IPA account 230, the VPL 235 can have a physical companion card (e.g. ATM, Debit, Smart Card) for physical, in person, purchases and withdrawals. The VPL 235 can allow physical access via ATM's or merchant card readers for a PIN debit transaction only. Although similar, it must be repeated the VPL 235 is a separate account from the IPA (or sending) account 230. The VPL 235 is a secure lockbox into which funds can be transferred but cannot be taken out (except during the sweeping process described herein). Users can choose whether their VPL 235 will sweep to a DDA or IPA account 280. VPL addresses for various merchants and other receivers of electronic payments are made available in a public website directory.

As described above, the VPL Reporter 240 is a portal to view the VPL account 235. The VPL Reporter 240 provides online, real-time transaction reports, and reconciles accounts receivable/purchase records against incoming EFT payment records. Although primarily intended for use by merchants, VPL Reporter 240 has two different levels of functionality, a base set of requirements for consumers, and added features for merchants & businesses.

With respect to the base (consumer) use, the VPL 235 updates the VPL Reporter 240 as payment records and transaction numbers are received through the EFT messaging system 270. At the same time, any purchase orders and payment confirmations are passed to the VPL Reporter 240 from merchant and billing web sites. The VPL Reporter 240 also receives

purchase confirmations from the Wallet 215. Purchase confirmations and payment records are retrievable, in real-time, from the VPL Reporter 240. VPL Reporter 240 owners will be able to view their records with respect to the base VPL account 235 on the web. Although only one VPL account 235 has been illustrated in Figure 2, it is understood that a merchant is able to simultaneously maintain several VPLs 235. Each of these VPLs 235 is capable of being accessed by the single VPL Reporter 240.

In addition to the functionality described above with respect to the base configuration of the VPL Reporter 240, a merchant embodiment of VPL Reporter 240 includes additional functionality. A first of the additional functions provided by the merchant VPL Reporter 240 is its reconciling capability that matches purchase requests 250 generated by the merchant's website 255 with shopper's purchase confirmations and the EFT payment records 245. Any items that do not match will be flagged as exceptions for review. The merchant VPL Reporter 240 further provides for identification (ID) and password security, offering varying levels of access authority to the users.

Additionally, the merchant VPL Reporter 240 automatically updates the merchant's accounts receivable, inventory & fulfillment files. As a further extension, VPL Reporter 240 also has fulfillment service capabilities whereby information from a merchant's website 255 is consolidated and communicated to a warehouse to initiate product shipment 260, as well as linked to United Parcel Service (UPS™), Federal Express (FedEx™), or other shipping services for shipping execution. The VPL Reporter 240 contains essential customer service tools such as the ability retrieve/review electronic

purchase orders/payments real time, and in turn the ability to email or autofax copies of such directly to customers. The VPL Reporter 240 further provides data mining tools that collect statistics on buyer/shopper behavior, track seasonal and regional buyer/shopper trends, and track other key demographics. Based on these statistics, merchants can issue focused, customized electronic coupons through their VPL Reporter 240. It is important to note that the VPL Reporter can be configured such that individual|buyer identities will not be available to the VPL Reporter 240 without the prior consent of the wallet owner. For consumers, the VPL Reporter 240 appears as a seamless part of the Wallet 215, while for merchants and businesses, the VPL Reporter 240 appears as a separate utility.

Merchant Web sites 255 are well known to those skilled in the art. Merchant Web sites 255 typically include code (such as HTML, XML, or ECML) for getting transaction bin statements to the Wallet 215 as well as a hotlink on the shopping site 255 that goes directly to shopper's Wallet 215.

Having described the structural elements of the present invention, the following discussion depicts an embodiment of the present invention related to Internet shopping. As in all of the remaining Figures 2-9, the method steps are illustrated in the Figures in small circles next to the structural element most closely related to the action being performed. In this embodiment, the consumer (user) initiates the process in step 2A by logging onto the Internet, launching the browser 210 and selecting the Wallet 215 icon from browser 210 toolbar.

In step 2B, the user completes a certification procedure 205 in order to correctly identify him or herself to the Wallet 215. Typically the

certification process involved the user keying in the user's ID and password. The user is thus authenticated and has access to their Wallet 215. In step 2C, the user is then presented with balance information with respect the Wallet 215 and can select from several options. In a preferred embodiment the options presented to the user include: Shop on the Web; Wire Anyone (see Figure 5); Pay Anyone (see Figure 3); Fund Wallet (see Figure 9); Pay Bills (see Figures 6-8); and Check Receipts from Wallet Activity.

Assuming the user has selected the Shop on the Web option in step 2D, the browser 210 could be initially directed to special website list of approved merchants. Alternatively, the user is free to navigate the Internet to the merchant web site of their choice. In step 2E, the user has found a website 255 of a particular merchant and more specifically has found and selected and item for purchase from merchant web site 255. Since the Wallet 215 is active, the merchant's site 255 recognizes user as a Wallet 215 customer. In response to this recognition, all of the purchase fields (shipping address, name, etc.) required by the merchant site 215 are automatically populated from the Wallet 215 as described above. Alternatively, the user can sign on to their wallet after the user has found an item at a website for purchase. The user can either invoke the Wallet 215 by clicking on an icon embedded directly into the merchant's web page 255, or by clicking on the Wallet button on the browser 210 toolbar.

In step 2F, the merchant site 255 generates and transmits to the user a bill payment message containing information with respect to the prospective purchase. The information provided by the website 255 in the bill payment message includes but is not limited to the following data: Merchant

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BIN; Merchant Account #; Transaction ID; and the Dollar Amount of the transaction. In step 2G the bill payment message is received by the Wallet 215 window. The window displays the bill payment message for review by the user. If the user changes his or her mind, the user can select a button on the window entitles Decline Purchase. If the user does want to complete the purchase a Purchase Item button is selected. Although described above with respect to a single item it is clear that the above process equally applies the shopping cart method employed by most merchant sites 255. In the shopping cart method, after the customer has selected a number of items to purchase, the merchant site 255 totals the items and transmits a consolidated payment message to the Wallet 215 in step 2F.

If the user has selected to purchase the item pursuant to the bill payment message from the merchant site 255, the Wallet 215 in step 2H verifies the user's balance in the Wallet 215 and passes a transaction record to the user's IPA or DDA account 230 as described below. In addition to processing the transaction record for the user, the Wallet 215 transmits a payment confirmation to the merchant's website 255. Typically, in response to this payment confirmation from the user's Wallet 215, the merchant's website 255 creates a purchase record 250 in a database (not shown) for future use in reconciling with the actual payment record 245 received when the financial systems (banks 220, 275 and EFT switch 270) indicate that the funds will be or have been transferred to the merchant's VPL account 235. The banks 220, 275 which maintain IPA 230 and VPL accounts 235 also maintain the above described database used as a centralized record keeping archive in order to feed and retrieve transaction data including. Such transaction data

includes merchant purchase requests, the herein described online transactions and Wallet payment confirmations, and the records required for the VPL Reporter 240 including EFT transaction data.

In addition to the payment confirmation sent by the Wallet 215 to the merchant's website 255, the Wallet 215 sends the payment transaction to the user's IPA or DDA account 230 for the actual transference of the funds from the user's account 230 to the merchant's account 235. The consumer's bank 220 will require some form of authentication of the payment request from the Wallet 215. This authentication can be in the form of a software certification, an encrypted PIN, or the mother's maiden name of the consumer as is illustrates in the certification block 225 in Figure 2. Once the bank 220 has authenticated that the message truly originated from the consumer, the bank 220 can then fulfill the payment request.

Upon receipt of this requirement for payment, in step 21, the user's IPA or DDA account 230 sends a bill payment record 245 to the merchant's VPL account 235 via the ATM switch 270. Although the payment record 245 is illustrated in Figure 2 and being processed directly by the accounts 230 and 235, it is appreciated that the records are actually processed by the messaging systems of the user's bank 220 and the merchant's bank 275 via the EFT network 270. The payment record 245 is essentially a guarantee of payment from the user's bank 220 (the funds being debited from the user's account 230) to the merchant's bank 275 (the funds being credited to the merchant's account 235).

After the bill payment record 245 has been received by merchant's VPL 235, the record 245 is linked to the merchant's VPL Reporter

245. Upon receipt of the payment record 245, the VPL Reporter 240 preferably stores the record 245 in the same database in which the purchase record 250 was stored in step 2H described above. Once the payment record 245 has been stored, it can be reconciled by the VPL Reporter 240 against the merchant's purchase record 250. In this manner, the accounting loop in the merchant's system can be closed, with the matching of the merchant's invoice (the purchase record 250) with the payment (the payment record 245). With VPL Reporter 240, a merchant has a product that allows for secure transaction fulfillment, reconcilement ability, record-keeping and archive possibilities. Once the financial loop has been closed with the receipt of the payment record 245 by the merchant, the merchant can confidently ship the goods 260 to the consumer in step 2L. Shipment of the goods can entail physical shipment of a physical good, or electronic transmission of a digital good such as a music file.

In fulfillment of the guarantee established by the payment record 245, funds are settled once a day in step 2M between user's bank 220 and the merchant's bank 275 through the EFT switch 270. Typically, hundreds or thousands of such payments occur back and forth between bank 220 and bank 275 during the day and for efficiency purposes, the actual net funds due from one bank to the other are only transferred once per day. For example, one bank 220 might have guaranteed $10,000 in payments from 100 of its customers to the other bank 275. On the same day the other bank 275 might have guaranteed $12,000 in payments from 50 of its customers to the other bank 220. At the end of the day, bank 275 only sends the difference, $2,000, to bank 220 and each of the banks 220, 275 ensure that the proper accounts in its own bank are debited and credited for the payments. As can be readily

appreciated each bank can perform this once a day settlement with hundreds of other banks, as is presently done with the current ATM system 270 transfer of funds. Again on a daily basis, the funds received into the merchant's VPL account 235 are swept by an automatic process into the merchant's cash concentration account 280, which can be a DDA or IPA account.

As is readily appreciated from the above description, the Wallet 215 and the Virtual Private Lockbox (VPL) 235 significantly enhances the consumer and merchant experience when used for web shopping. The present invention completely solves one the biggest problems of the prior art, the hesitancy of a consumer to provide it's financial account information over the Internet. Rather than the merchant "pulling" in the consumers account information and requiring authentication of the consumer, the Wallet "pushes" guaranteed funds to the merchant's Virtual Private Lockbox, without the merchant obtaining the consumers account info. This transaction is virtually instantaneous, provides privacy, security, and convenience to the consumer -- and guarantees funding, provides reconcilement, and supplies archival records to the merchant.

With respect to authentication, because the consumer is pushing the payment to merchants or other entities or individuals, rather than the merchants pulling payments from consumer accounts, the consumers do not need to authenticate themselves to the merchant. Rather, the consumers authenticate themselves to their own bank 220, which then executes the payment to the merchant's VPL account 235.

This method of the present invention is quite attractive to consumers because they can pay any merchant regardless of the existence of a

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pre-existing relationship with that individual or entity. The transaction can furthermore be conducted from anywhere there is access to the Internet. The IPA account 230 can be used and managed through the consumer's PC, a web enabled ATM, by phone 203 or by any other web enabled device 204. The present Internet shopping payment method is extremely easy for online banking customers to adopt. The method allows consumers to conduct online shopping without having to provide any personal confidential financial information to unknown merchants. The method allows consumers to conduct these financial transactions solely with her or his own financial institution.

With respect to merchants that are paid by the method of the present invention, there are several advantages. This method opens up a universe of buyers/payors who do not have access to or the desire to use credit or debit cards online. Very little effort is required on the part of a merchant which only has to publish its bank 275 and VPL deposit only account 235 information on its web site 255. If a merchant has been using traditional credit card methods, the present invention provides the merchant with significant savings in credit card processing, repudiation costs, fraud loss, and chargeback costs. The present invention also provides the merchant with the ability to economically accept micropayments.

Figure 3 illustrates a second embodiment of the present invention in which the structures described above can be used by a user to pay anyone. The Wallet 215 of the present invention provides the user with tremendous flexibility. Anyone with a Wallet 215 can conveniently send funds to anyone else with a Wallet 315. This funds transfer is instantaneous and at no cost to the consumer, and is conducted in a secure environment.

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As described above with respect to the Internet shopping model illustrated in Figure 2, in the pay anyone model of Figure 3, in steps 3A-3C, the user logs onto the Internet, launches its browser (not shown in Figure 3) and launches the Wallet 215. The Wallet 215 again requires that the user keys in its user id and password, by which the user is then authenticated and has access to their Wallet 215. The User is then presented with its Wallet 215 balance information and can select from several options including Shop on the Web, Pay Anyone, Pay Bills, Wire Anyone, Fund Wallet, Check Receipts from Wallet Activity, Edit Wallet information, or Go to Customer Service. In the present embodiment illustrated in Figure 3, the user selects the Pay Anyone option from the menu and the user is presented with several options in the Pay Anyone menu screen in step 3D. These options include: manually keying in the payee's VPL number; selecting a prior payee from a drop down menu; Add/Remove/Edit a payee from drop down menu; and the option to go to an online directory of VPL numbers of various payees. In the particular embodiment illustrated in Figure 3, the user keys in (or selects) the payee's VPL number, the dollar amount of the payment, and a description of the reason for the payment, the description being optional.

In step 3E, the above described payment information is transmitted to payee's Wallet 315. The payee's Wallet 315 verifies the VPL number specified by the user and provides an authorization to make the payment. In step 3F, the payee's Wallet 315 confirms that information is correct and transmits to the user (payor) a payment message with the following data: Payee BIN; Payee Account #; Transaction ID; the dollar amount of the payment; and an optional description. In step 3G, upon receipt

of the payment message, the user reviews the message and selects "OK to Pay".

In step 3H, the user's Wallet 215 sends the payment transaction to the user's IPA or DDA account 230. In parallel, the user's Wallet 215 transmits a confirmation of the expected payment to the payee's Wallet 315 which creates an expected payment record 350. The payment transaction from the user's Wallet 215 to the user's IPA account 230 goes through the certification 225 as described above in order for the user's bank 220 to properly identify the user's authorization to make the payment from the IPA account 230. In step 3I, the payment message is passed from user's IPA or DDA account 230 to the payee's VPL 335 via the ATM switch 270. The payee's VPL 335, in step 3J, in turn transmits the payment record 345 to the payee's Wallet 315 or alternatively to the payee's VPL Reporter 340 (if the payee has such a Reporter 340). Upon the receipt of the payment record 345, in step 3K the payee's Wallet 315 or VPL Reporter 340 is able to reconcile the expected payment record 350 against the actual payment record 345. Upon receipt of the actual payment record, the payee bank 375 credits the payee's VPL account 335 and the payee now has immediate use of funds. These funds can in turn be used for web shopping, bill payment, pay anyone (step 3M). Or withdrawn at an ATM using the card feature described below.

In concluding the pay anyone process, as with the embodiment illustrated in Figure 2, funds are settled once a day between the user's bank 220 and the payee's bank 375 (through the EFT network 270), and the funds are swept into the payee's DDA or IPA account 380.

The pay anyone process described above is a very attractive payment method for consumers. For example, the consumer might be responding to a classified advertisement (electronic or traditional paper) or purchasing an item or a service through an electronic auction site such as eBay™. In either of these cases, the consumer can obtain the payee's VPL account 335 information (e.g., BIN, account number ...) in a variety of ways. In one method, the consumer obtains this information electronically from the service where it contacted the individual (e.g., through eBay™). Alternatively, the consumer can obtain the necessary destination bank information through offline methods such as the traditional paper classified advertisement or through an Email which has been "pushed" to the consumer by the potential payee. The potential payee is protected using these methods since the VPL account 335 is a receive only account and no one can access the account to fraudulently withdraw money from the account.

Figure 4 illustrates an embodiment of the present invention involving pre-paid cash cards. In this embodiment, the pre-paid cash cards are linked to IPA or VPL accounts containing a pre-set amount of cash. The card is issued to the IPA or VPL account owner in order for the user to access the IPA or VPL account in the physical world. Furthermore, the cards can be purchased at vending machines placed in convenient e-commerce locations. The card can be issued from the sponsoring bank's website or from a vending machine/vending-enabled ATM. When the user establishes a Wallet 215 on the Internet, an option is available for receiving the pre-paid plastic card. Upon selecting this option, the card is mailed to the IPA owner.

In the vending machine embodiment, the card is purchased from the vending machine with pre-funded with set increments of currency. These increments are associated to specific account number ranges, and are linked to pre-activated VPL accounts. Alternatively, the card can be automatically activated upon its disbursement from the machine, or by the consumer making a toll-free call to a customer service line. The purchase of a card at a vending machine establishes a VPL account for the purchaser.

Once purchased, the cards can be accepted at ATM's and merchants that are outfitted with card readers. Since the cards are PIN protected, they are safer than cash. The card has the IPA or VPL account number as well as a PIN. The PIN is printed on a sticker affixed to the back of the card when the card is issued. The account number and PIN are also stored on the magnetic stripe on the back of the card. The VPL account associated with the card can receive funds from any VPL account owner. The card can be used to withdraw funds at an ATM and make purchases to any merchants that accept debit cards.

For card purchased by someone who did not previously have a VPL account, in order to subsequently utilize the card on the Internet, the card owner will be required to establish an Internet ID and password at the sponsoring bank's website (which is printed on the back of the card). At the bank's website, the new card owner keys in the card number and PIN to synchronize the VPL with a newly created IPA account for the user. This action also creates an Internet ID and password for the user. This synchronization will shift the card link from the VPL account to the IPA account. The user will also be asked to indicate whether any funds received

by the VPL will be swept to the newly created IPA or to an existing DDA account.

One specific embodiment purchasing and using a pre-paid card is illustrated in Figure 4. In step 4A, the purchaser selects a card from either a vending machine 400 or a vending enabled ATM (not shown). In a preferred embodiment, cards can be purchased for as little as a $1, or in larger ATM-like increments. After making a selection, the purchaser is prompted to pay for the card. Several purchasing options are available, including cash, debit cards and credit cards.

In step 4B the card is disbursed from the machine 400, and is shrink wrapped with a pre-assigned PIN as well as instructions for using the card. The card is either pre-activated or alternatively, the dispensing machine 400 sends an activation message to the card sponsor upon its purchase.

With the card in hand, the user is able to withdraw funds from the account associated with the card or making store purchases using the card. In step 4C, the card owner inserts the card into an ATM machine 430 or a merchant card reader at a merchant's Point Of Sale Location. The user then keys in the PIN number to identify her or himself as the proper owner of the card. In step 4D the merchant's card reader, which is connected to the EFT network 270, transmits the request through the EFT switch 270 to the sponsoring bank 410.

As similarly depicted in Figure 2, the payment message is seen as being received directly by the user's VPL account 420, but in practice, it is realized that all EFT messaging occurs through the systems of the bank 410. The message is transmitted to the bank 410 as an online PIN debit transaction

against the user's VPL account 420. Upon verification that there are sufficient funds available in the VPL account 420 associated with the requesting card, the transaction is authorized by the VPL sponsor 410 and the funds are deducted from the balance in the VPL account 420. In step 4E, the authorization message is transmitted back to the ATM or POS 430 through the same EFT network 270 and the funds are released to the card owner (in the case of an ATM withdrawal) or credited to the merchant (store purchase) in step 4F.

Figure 5 illustrates an embodiment of the present invention in which the user can instantly wire funds to anyone. The payee (recipient of the funds) can withdraw the funds via an ATM through the use of a VPL card, which the payee can either purchase at a vending machine or receive by mail when establishing an account, as described above. As with all of the embodiments of the present invention, this wire anyone feature ensures that the transaction is conducted in a secure environment.

As described above with respect to the embodiments of Figures 2 and 3, in the wire anyone method of Figure 5, in steps 5A-5C, the user logs onto the Internet, launches its browser (not shown in Figure 5) and launches the Wallet 215. The Wallet 215 again requires that the user keys in its user id and password, by which the user is then authenticated and has access to their Wallet 215. The User is then presented with its Wallet 215 balance information and can select from several options including Shop on the Web, Pay Anyone, Pay Bills, Wire Anyone, Fund Wallet, and Check Receipts from Wallet Activity. In the present embodiment illustrated in Figure 5, the user in step 5D selects the Wire Anyone option from the menu and is asked whether

the potential payee already has Wallet or a Card. If the payee already has a Wallet the procedure set forth above with respect to the pay anyone method of Figure 3 is followed. If the user indicated that the payee has one of the cards described in Figure 4, the user is prompted to either key in the cardholder's account information or to select the card from an online directory. After the user has keyed in the requested information, the information is validated (i.e., the VPL account associated with the card is valid). The user then keys in the dollar amount that is to be wired.

In step 5E, a wire confirmation is generated with the following data: Payee BIN; Payee VPL number (card number); Transaction ID; and dollar amount. After reviewing the information, the user then selects "OK to Wire" on the workstation 200 screen (e.g., PC, PDA ...). In step 5F, the user's Wallet 215 verifies the balance in the IPA account 230 and passes the transaction to IPA 230 if there are sufficient funds in the account 230 to cover the transaction. In step 5G, the payment message is passed via the ATM switch 270 from user's bank 220 (IPA account 230) to the payee's bank 575 (VPL account 535).

The payee can withdraw the funds via an ATM 500 through the use of a VPL card as described above. When the withdrawal is requested, a payment message is transmitted in step 5H from the Payee's VPL account 535 to the ATM 500 provider bank. The payee now has immediate use of funds, and the withdrawal is made in step 5I. As with the previous embodiments, funds are settled once a day between the payor's bank 220, the VPL owner's bank 575, and the ATM 500 provider bank.

The present embodiment is well suited for many different situations. For example, if a parent has a son or daughter away at college, the parent has provided the child with a card and associated VPL account 535, and is able to transfer funds to the child's account 535 in a simple, quick and cost efficient manner by use of the present invention. Those skilled in the art will appreciate that the above embodiment can be used by a customer of the bank to transfer funds to anyone, such as the customer's gardener or a child at college as described above.

Figures 6, 7 and 8 illustrate three different bill paying embodiments according to the present invention. Figure 6 depicts a direct bill paying embodiment, Figure 7 describes bill payment including a service provider performing consolidation, and Figure 8 explains a bill payment method in which the customer performs the consolidation. In Figure 6, the direct method, a biller establishes an e-billing capability on its own web site 255. Once enrolled in the service, the customer receives an e-mail notification that a bill is available for payment at the biller's web site 255. The customer launches the Wallet 215 from the browser 210 and then accesses the biller's web site 255. A payment is transmitted from the Wallet 215 to the biller's Virtual Private Lockbox 235. As in all of the embodiments of the present invention, the transaction is secure, protects the customer's privacy, and provides the biller with guaranteed funding, reconcilement, and archival records.

As is illustrated in Figure 6, the biller/merchant must first establish an e-billing relationship with its customer. One way in which the merchant might do so is to advertise its e-billing service via e-mail, mail, or

web. In step 6A, it is assumed the user has enrolled in the e-bill service at biller's web site 255 and is receiving monthly email notification when bills are available. As previously described, in step 6B the user logs onto the Internet, launches its browser 210, launches the Wallet 215 and is presented with the various menu options. In step 6C, the user selects the "Pay Bills" option and is given several options in the Pay Bills menu screen including "Pay Bills" and "Edit Billing information". Selecting the "pay bills" choice, the user navigates to the biller's web site 255. It must be recalled that the Wallet 215 already contains user's billing info.

Since web Wallet 215 is active, biller's website 255 recognizes the user as a Wallet 215 customer. In addition, the biller's website in step 6D verifies that customer has an established e-billing relationship. In step 6E, the biller's site 255 generates and transmits to the user a bill payment message that includes the following data: Biller's BIN; Biller's Account number; Transaction ID; and the dollar amount of the bill to be paid. In step 6F, the bill payment message is received by the Wallet 215 window and is displayed for review by the user. The user has several options including at least the choice to edit the bill (e.g., the amount to be paid) or the option to pay the bill as presented.

If the user selects the "pay bill" option, the Wallet 215 verifies the user's balance in its IPA account 230 and passes the payment transaction to the IPA/DDA account 230 while simultaneously transmitting a payment confirmation to the biller/merchant's website 255 (step 6G). The bill payment message is passed from the user's IPA/DDA account 230 to the biller's VPL

account 235 via the ATM switch 270 (step 6H). The bill payment record is then transmitted from the biller's VPL 235 to the biller's VPL Reporter 240.

In step 6J, upon receipt of the payment record which guarantees the funds to settle the bill, the biller's payment record 245 is reconciled against the biller's accounts receivable files 600. As previously described, with the VPL account 235 and the VPL Reporter 240, a billing merchant can execute secure transaction fulfilment, reconcile all its accounts, while securely archiving all its records for later, simple retrieval. As described above with respect to other embodiments, funds are settled once a day between user's bank 220 and the biller's bank 275 (step 6K). The funds can be swept to the biller's DDA or cash concentration account 280 (step 6L).

Figure 7 depicts bill payment method, bill payment through a service provider consolidator. This bill payment method is similar to the first illustrated in Figure 6, however in this method a central service provider consolidates e-bills from many different billers. The service provider's site enables the customer to review and pay bills with respect to several if not all of its billers (e.g., electric bill, phone bill, mortgage ...). The service provider is seamlessly outfitted with an archival capability, so that customers can review their bill payment history. The Wallet 215 once again provides the consumer with privacy, security and convenience while the VPL provides the service provider (and its customers, the biller/merchants) with guaranteed funding, reconcilement and archival records.

In step 7A, the user enrolls in the e-bill service at web site 755 of the Customer Service Provider (CSP). The e-billing relationship between the CSP and the user is established either directly in response to advertising by

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the CSP or though the billers (customers of the CSP) advertising the services of the CSP to the users (who are customers of the billers). While enrolling (or at a later time) the user selects which bills it wishes to receive and pay electronically through the CSP's service. The CSP can offer an archive service to billers in order to store transaction history as well as providing a customer service unit to resolve transaction inquiries.

After enrollment, the user then begins to receive monthly email notification when bills are available from the billers chosen by the user. The e-bill can be sent to the user either by the CSP or directly from the biller to the user. In this second method, the biller must provide the CSP with an accounts payable file reflecting the e-bills it sent out, in order for the CSP to perform the below described reconciliation process for the biller. If the CSP is the party transmitting the e-bills to the users, the billers must provide the CSP with the billing information. Many types of record keeping methods are supported. The billers can push the billing information directly to the CSP's web site, or alternatively, the electronic bills can be channeled to the CSP via Spectrum or other electronic Internet bill payment aggregator.

Steps 7B and 7C are essentially the same as described above with respect to the direct bill paying embodiment of Figure 6. The only difference is that after choosing the "Pay Bills" option, instead of navigating to the biller's site directly, the user navigates to the CSP's web site 755. In step 7E , the user selects which bills to pay, and keys in the dollar amount to be paid on each bill (or selects the default, which is to pay the entire amount of the bill that was presented to the user)t. In step 7F, CSP site 755 generates and transmits to the user one or more bill payment messages. In one

embodiment, the CSP generates a single payment message that includes the appropriate payment information for all of the bills paid during the session. In an alternative embodiment, a separate payment message is generated for each of the bills paid by the user. In either embodiment, the message would

5   include: the CSP's BIN; the CSP's VPL account number; a transaction ID (or IDs); the biller(s) name(s) and the dollar amount(s).

Steps 7F through 7L are essentially the same as described above with respect to steps 6F through 6L of Figure 6 and the elements that are the same shall not be repeated. Although only a single VPL account 735 is

10   illustrated in Figure 7, it is appreciated that the CSP (or the billers directly) may maintain a VPL account 735 for each biller. Regardless of whether there is a single VPL 735 or several, the biller's themselves may view the contents of their receipts in the VPL 735 through the CSP's VPL Reporter 740. In step 7J, the CSP performs the reconciliation process for each of its customers (i.e.,

15   the billers). In Step 7L, each biller's receipts are swept into their respective DDA or cash concentration accounts 780.

Figure 8 illustrates the third bill payment embodiment involving customer consolidation. In this third bill payment method, the e-bills 800 are delivered directly to the customer in the form of an e-mail. Each e-bill 800

20   contains a hotlink, which directs the customer to the biller's web site 855 (or to a CSPs website if the CSP handles the payments for the biller). When the customer activates its Wallet 215, the web site 855 recognizes the Wallet 215 customer and initiates a payment message as previously described. The customer can then push the payment to the biller in the same manner that a

25   payment is pushed in the web shopping embodiment of Figure 2, the pay

anyone embodiment of Figure 3, as well as the two other bill payment embodiments of Figures 6 and 7. As with all the previous embodiments, the merchant once again receives the guaranteed funding, reconcilement, and archival records benefits of the present invention.

5   Figure 9 depicts a system and method for establishing and funding a Wallet 215. As described above a user's IPA account 230 is accessed through a virtual Wallet 215 that can be accessed via the Internet 900, ATM 905, telephone 910, Kiosk 915, an interactive TV, and even a Personal Digital Assistant (PDA) 920. The primary method for funding the

10 Wallet 215 (or more specifically the IPA account 230 linked to the Wallet 215) is through one of the Wallet owner's other DDA accounts (e.g., a saving account). In a preferred embodiment, the Wallet 215 can receive funds from the other accounts of the user through various forms of online banking. Alternative funding options can be achieved through an externally sponsored

15 credit card, by check or money order, or through the ACH network.

    Steps 9A through 9C illustrate one method by which a user can install a Wallet 215. As previously stated the preferred embodiment includes an online banking system. The following example uses a fictional operator of the system denoted as XYZBank. In step 9A, the user logs onto the Internet

20 and uses its browser 210 to navigate to the XYZBank.com site 960. In step 9B, the user selects the "Wallet" option from main menu on the XYZBank.com site. On the "Wallet" screen the user is presented with two options: "Are you an Online Banking customer?" and "Are you a Non-XYZBank customer? If user selects "Online Banking customer", the user is

25 presented with a list of the accounts held by the user at the XYZBank that are

supported by online banking. The user then identifies of the DDA account 930 or IPA account 230 to which the Wallet will be linked. If the user selects "Non-Chase bank customer", their Wallet 215 is linked to an IPA account 230 set up for the customer at XYZBank.

Next, in step 9C the user sets up a web Wallet 215 for use by choosing "Install a Web Wallet" from the menu. The user is instructed that its web Wallet will now be installed as a button on the browser 210 toolbar. Once the software for the Wallet 215 has been installed on the user's system (e.g., the user's PC or web server), the user is prompted to provide some background information that will assist the user in making web purchases and payments. An example of some of the background information requested includes the user's shipping name address. At this point, the Wallet 215 installation is complete and the user can perform any of the methods described above with respect to Figure 1-8.

Steps 9D through 9K illustrate two methods of funding the Wallet 215. For customers of XYZBank, the primary method for initial and future funding of the Wallet 215 is performed through a link between the Wallet 215 and Online Banking as described above. For initial funding of the Wallet 215, the user selects "move funds to/from Wallet" from an online banking menu. The user then provides the following information: the source of the funds- checking, credit card, savings, etc.; the dollar amount of the transfer; the funding date; and whether this is one time transfer or a repeat transfer. Upon completion of above, the Wallet 215 is funded. Subsequent funding of the Wallet 215 can be done through the Wallet 215 itself or through the online banking system. In addition to funding via online banking,

instructions can be given for funding via phone 910, ATM 905, Kiosk 915, or PDA 920 or interactive TV.

Steps 9E through 9J illustrate a method of funding the Wallet 215 from an external credit (e.g., cash advance from a credit card) or debit card, or an external DDA account (external to XYZBank). For the Non-XYZBank customer or an XYZBank customer wishing to fund the Wallet 215 externally, the user in step 9E selects "fund with a non- XYZBank account". The user then selects the financial merchant of the account (e.g., American Express™, VISA™, etc.) and keys in account number, expiration (if applicable), and the dollar amount of the funding transfer. The funding request is transmitted to a merchant acquirer 970 associated with or part of XYZBank. This account information is stored for future funding requests.

In step 9F, the merchant acquirer 970 (such as Chase Merchant Services™) authorizes the funding transaction and passes the request through the EFT switch 270. In step 9G, the financial merchant (e.g., VISA™) receives funding request via EFT switch 270, and verifies the card number, expiration, and credit limit. If the funding is authorized by the financial merchant (step 9H) the funds are received by the Wallet 215, more specifically, the IPA or DDA account 230 linked to the Wallet 215 (step 9I). The funds settlement (step 9J) between the credit card's bank and user's bank typically occurs once per day. A similar process occurs when the funding is from a user's DDA account at another financial institution.

Although the present invention has been described in relation to particular embodiments thereof, many other variations and other uses will be apparent to those skilled in the art. It is preferred, therefore, that the present

invention be limited not by the specific disclosure herein, but only by the gist and scope of the disclosure.

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ABSTRACT OF THE INVENTION

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Five main structural components of the include a digital Wallet, an Internet Pay Anyone (IPA) Account, a Virtual Private Lockbox (VPL) and an associated VPL Reporter, the existing EFT networks, and a cash card for access a VPL. The Wallet is a software application that provides a secure portal for accessing (linking to) either the user's Demand Deposit Account

10 (DDA) or an IPA. Consumers use the Wallet to fund their account, shop on the web, pay bills, pay anyone, store electronic receipts and transaction history, and check their recent Wallet activity. The IPA account is a special purpose DDA with limited functionality for funding and receiving electronic payments. Funds can only be accessed electronically (through a PC, card

15 reader, PDA, Interactive TV and cell phone technology, for example). The VPL is a limited function receive only DDA account for receiving electronic payments through the EFT. The VPL Reporter is a portal to view the VPL account, provide online, real-time transaction reports, and to reconciles accounts receivable/purchase records against incoming EFT payment records.

20 In addition, the transaction history of the VPL can be archived and retrieved via a payment search engine in the VPL Reporter. The VPL provides the merchant with powerful data mining, customer service, and order fulfillment (warehouse, shipping, supply chain management) tools at their fingertips.
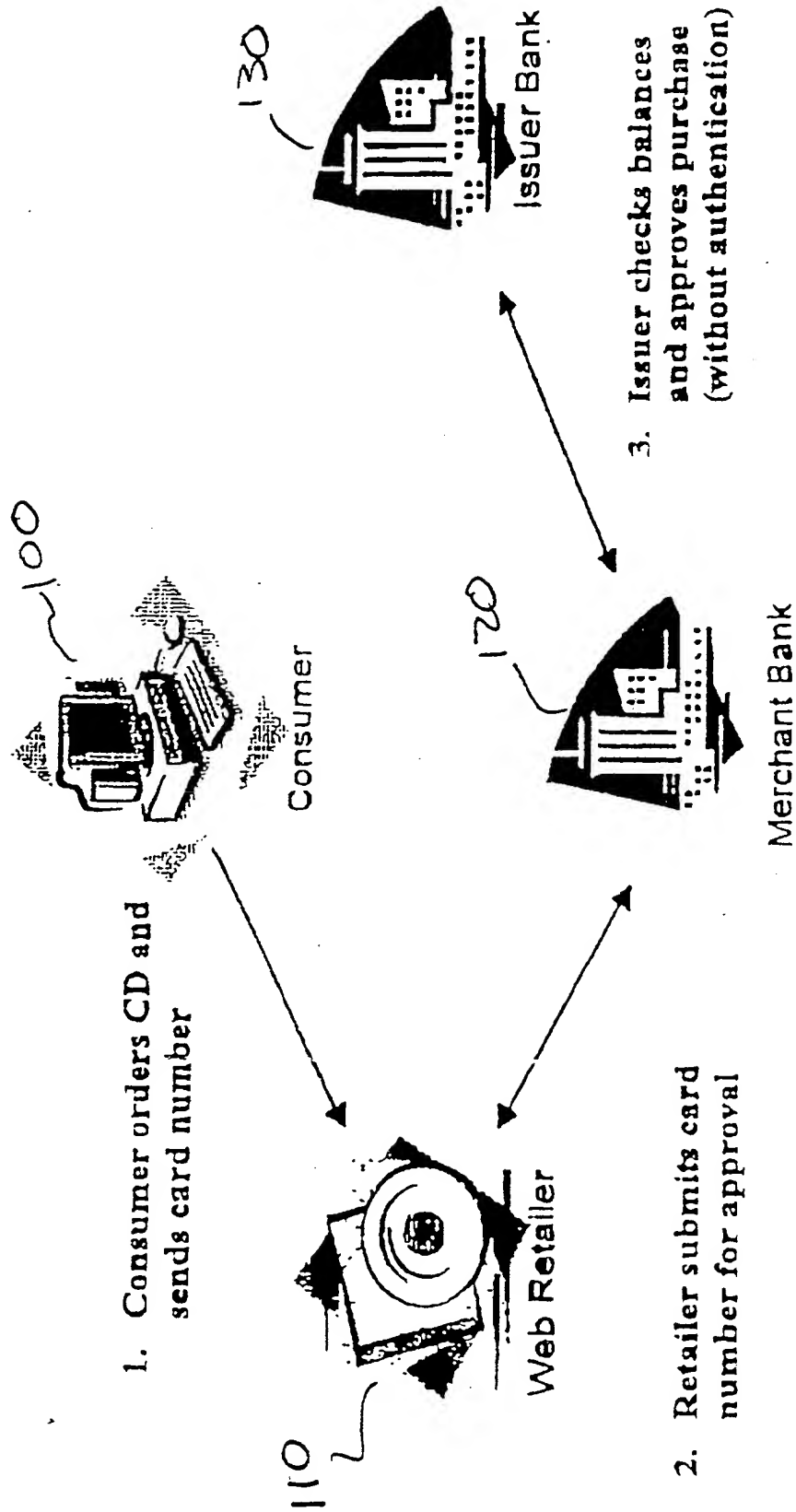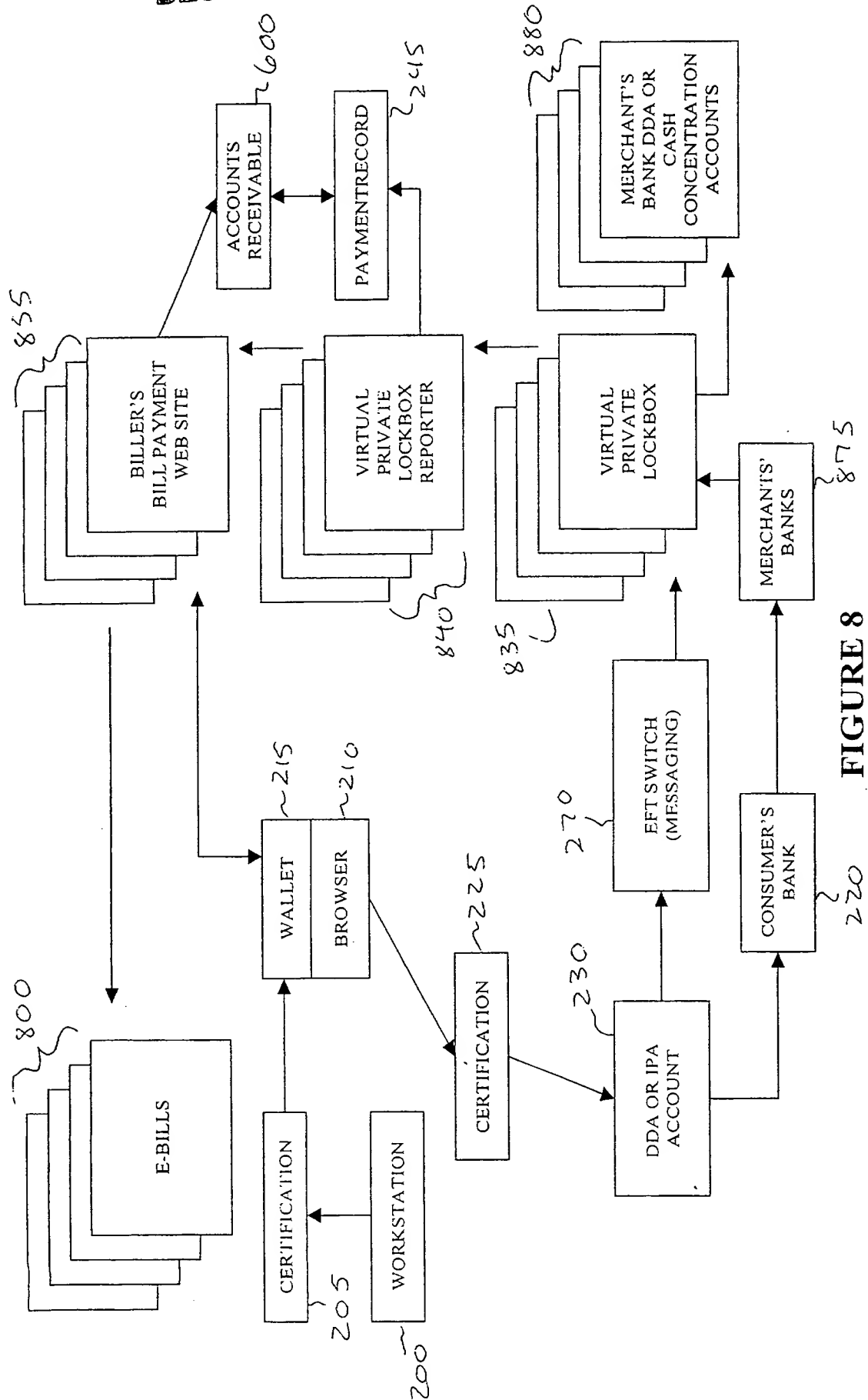
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Issuer Bank

3. Issuer checks balances and approves purchase (without authentication)

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Consumer

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Merchant Bank

1. Consumer orders CD and sends card number

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Web Retailer

2. Retailer submits card number for approval

Fig. 1
Prior Art
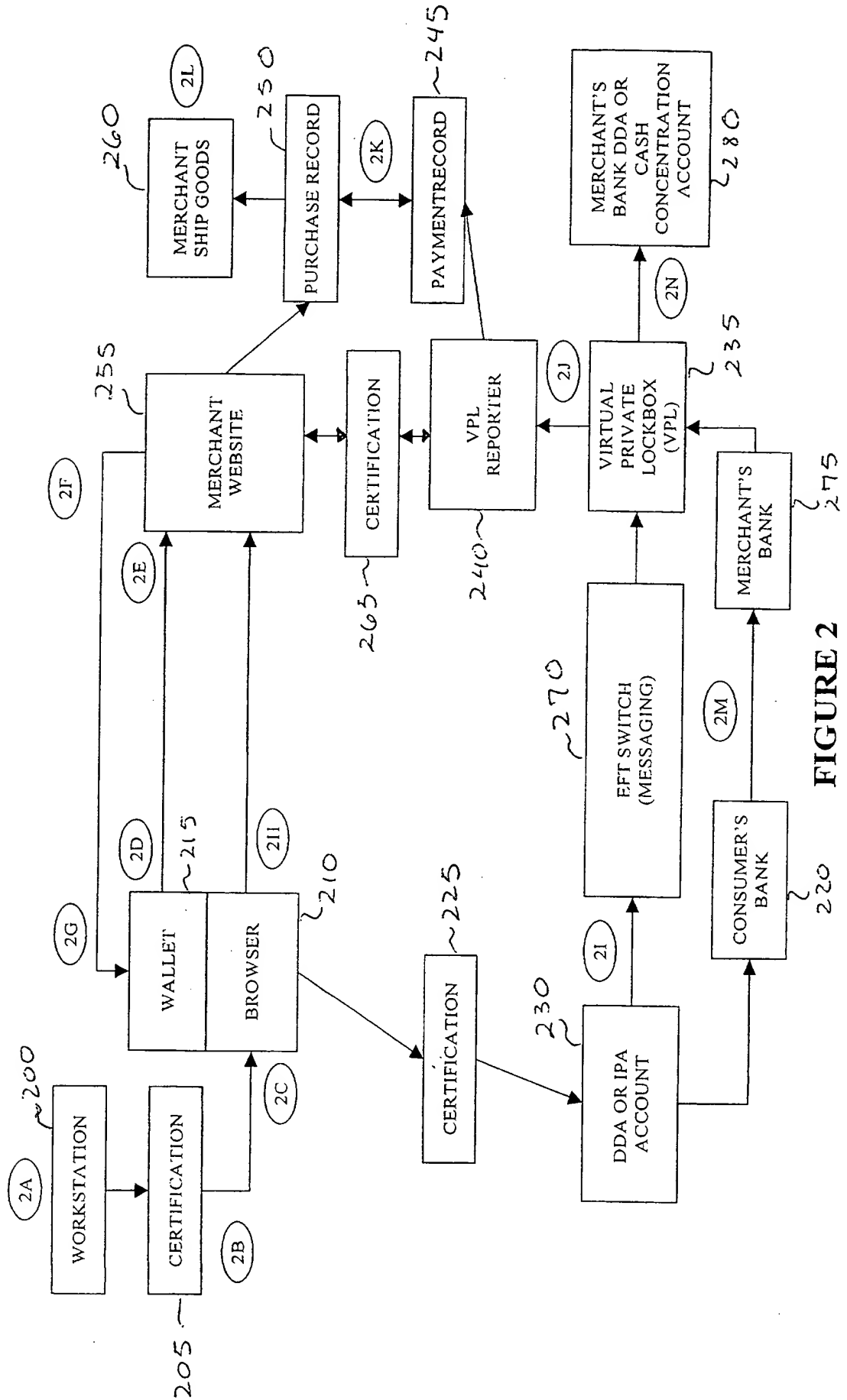
FIGURE 8

FIGURE 2

FIGURE 3

FIGURE 4

FIGURE 5

FIGURE 6

FIGURE 7

FIGURE 9